



IFWO

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/805,311

DATE: 09/10/2004

TIME: 14:37:53

Input Set : N:\AMC\US10805311.raw

Output Set : N:\CRF4\09102004\J805311.raw

```

1 <110> APPLICANT: Hermon-Taylor, John
2   Doran, Tim
3   Millar, Douglas
4   Tizard, Mark
5   Loughlin, Mark
6   Sumar, Nazira
7 <120> TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES AND POLYPEPTIDES IN PATHOGENIC
8   MYCOBACTERIA AND THEIR USE AS DIAGNOSTICS, VACCINES AND
9   TARGETS FOR CHEMOTHERAPY
10 <130> FILE REFERENCE: 117-260
11 <140> CURRENT APPLICATION NUMBER: US/10/805,311
12 <141> CURRENT FILING DATE: 2004-03-22
13 <150> PRIOR APPLICATION NUMBER: US/09/705,911
14 <151> PRIOR FILING DATE: 2000-11-06
15 <150> PRIOR APPLICATION NUMBER: US/09/091,538
16 <151> PRIOR FILING DATE: 1998-09-16
17 <150> PRIOR APPLICATION NUMBER: PCT/GB96/03221
18 <151> PRIOR FILING DATE: 1996-12-23
19 <150> PRIOR APPLICATION NUMBER: GB 9526178.0
20 <151> PRIOR FILING DATE: 1995-12-21
21 <160> NUMBER OF SEQ ID NOS: 41
22 <170> SOFTWARE: PatentIn Ver. 2.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 674
26 <212> TYPE: DNA
27 <213> ORGANISM: Mycobacterium
28 <400> SEQUENCE: 1
29   gatccaacta aaccgatgg aacccgcgc aaactattgg acgtctccgc gctacgcagt 60
30   tgggttggcg cccgcgaatc gcactgaaag agggcatcga tgcaacggtg tcgtggtacc 120
31   gcacaaatgc cgatgccgtg aggaggtaaa gctgcgggcc ggccgatgtt atccctccgg 180
32   ccggacgggt agggcgacct gccatcgagt ggtacggcag tcgcctggcc ggcgaggcgc 240
33   atggcctatg tgagtatccc atagcctggc ttggctcgcc cctacgcatt atcagttgac 300
34   cgctttcgcg ccacgtcgca ggcttgcggc agcatcccgt tcaggtctcc tcatggtccg 360
35   gtgtggcacg accacgcaag ctcgaaaccga ctcgtttccc aatttcgcat gctaatatcg 420
36   ctcgatggat tttttgcgca acgcccggctt gatggctcgt aacgttagca ccgagatgct 480
37   gcgccactcc gaacgaaagc gcctattagt aaaccaagtc gaagcatacg gagtcaacgt 540
38   tgttattgat gtcggtgcta actccggcca gttcggtagc gctttgcgtc gtgcaggatt 600
39   caagagccgt atcgtttccct ttgaacctct ttcggggcca tttgcgcaac taacgcgcaa 660
40   gtcggcatcg gatc                                     674
42 <210> SEQ ID NO: 2
43 <211> LENGTH: 674
44 <212> TYPE: DNA
45 <213> ORGANISM: Mycobacterium

```



## RAW SEQUENCE LISTING

DATE: 09/10/2004

PATENT APPLICATION: US/10/805,311

TIME: 14:37:53

Input Set : N:\AMC\US10805311.raw

Output Set : N:\CRF4\09102004\J805311.raw

## 46 &lt;400&gt; SEQUENCE: 2

```

47   gatccgatgc cgacttgccg gttagttgcg caaatggccc cgaaagaggt tcaaaggaaa 60
48   cgatacggct cttgaatcct gcacgacgca aagcgctacc gaactggccg gagttagcac 120
49   cgacatcaat aacaacgttg actccgtatg cttcgacttg gtttactaat aggcgctttc 180
50   gttcggagtg ggcgagcatc tcggtgctaa cgttacgagc catcaagccg gcggtgcgca 240
51   aaaaatccat cgagcgatat tagcatgcga aattgggaaa cgagtcgggt cgagcttgcg 300
52   tggtcgtgcc acaccggacc atgaggagac ctgaacggga tgctgccgca agcctgcgac 360
53   gtggcgcgaa agcgggtcaac tgataatgcg taggggcgag ccaagccagg ctatgggata 420
54   ctacacatagg ccatgcgcct cgccggccag gcgactgccg taccactcga tggcaggctcg 480
55   ccctaccgtg ccggccggag ggataacatc ggccggcccg cagctttacc tcctcacggc 540
56   atcggcattt gtgcggtacc acgacaccgt tgcacgatg cctcttttca gtgcgattcg 600
57   cgggcgccaa cccaactgcg tagcgcgag acgtccaata gtttgcgcgg ggttccatcg 660
58   ggtttagttg gatac 674

```

## 60 &lt;210&gt; SEQ ID NO: 3

## 61 &lt;211&gt; LENGTH: 7995

## 62 &lt;212&gt; TYPE: DNA

## 63 &lt;213&gt; ORGANISM: Mycobacterium

## 64 &lt;400&gt; SEQUENCE: 3

```

65   gaattctggg ttggagacga cgtcgaaact ctgggtcggtc ttgcttcgaa tgatcgctgt 60
66   gatctgggtc gcggtgccga caggaaccgt cgacttgctg acgatcacct tgtaccggtc 120
67   gatgtatgac ccaatgtcgt ccgcaaccga gaagacgtac gtcagggtcc cgccccgct 180
68   ttcacccatg ggcgtcgga cggcgatgaa aatgacgtcc gcgtgctcga ttcgcggtg 240
69   ccggctcggt gtgaagtcaa tcagcccggt ctcacgggtc ctgcgaatca actcccaacc 300
70   cgggctcgaa aatcgggaca ctgcctgcga ggagcaaata gatcttggtc tgatcgatat 360
71   cgacacagac gacatcggtt ccgctatccg cgagacaggg gcccggtgac aggcctacat 420
72   agcctgatcc gaccaccgaa attttcaaga tgaccccttc aagtcgccga tcggtcgacg 480
73   accatactgc cgcaactctg taccctccgt gggtaattcg catgtcgctg tcgtaaggag 540
74   cagccagcga gtcggggacg ttcggtgaga gagtcgcagg actacgaggt tgccgggtgcg 600
75   atacatcaca gtgttgcgtc tgtcggcaac gatgcagcaa gaaccacagg ggcagccctg 660
76   aactgcgcgc atgaccggtc cttgtcctgg cacctttgat cggccaccgc ttcctatgca 720
77   acatgaccgg aatccatagc gcgtggtcaa gcagcgggga ggtagacgtc ggtgtcatct 780
78   gtcceaaccg tgcggtgat aacgatttcg ctgaacgata tcgagggatt gaaaagcacc 840
79   gtggagagcg ttcgcgcgca gcgctatggg gggcgaatcg agcacatcgt catcgacggt 900
80   ggatcgggcg acgcgctcgt ggagtatctg tcgggcgata ctggctttgc atattggcaa 960
81   tctcagcccg acaacgggag atatgacgcg atgaatcagg gcattgccc ttcgtcgggc 1020
82   gacctgttgt ggtttatgca ctccacggat cgtttctccg atccagatgc agtcgcttcc 1080
83   gtggtggagg cgctctcggg gcatggacca gtacgtgatt tgtggggtta cgggaaaaac 1140
84   aaccttgctg gactcgacgg caaaccactt tccctcggc cgtacggcta tatgcccgtt 1200
85   aagatgcgga aatttctgct cggcgcgacg gttgcgcata aggcgacatt cttcggcgcg 1260
86   tcgctggtag ccaagtggg cggttacgat cttgattttg gactcgaggc ggaccagctg 1320
87   ttcacttacc gtgcgcgact aatacggcct cccgtcacga tcgaccgctg ggtttgcgac 1380
88   ttcgatgtca cgggacctgg ttcaaccag cccatccgtg agcactatcg gaccctgcgg 1440
89   cggctctggg acctgcatgg cgactaccgg ctgggtgggc gcagagtgtc gtgggcttac 1500
90   ttgcgtgtga aggagtactt gattcggggc gacctggccg cattcaacgc ggtaaagtct 1560
91   ttgcgagcga agttcgccag agcttcgcgg aagcaaaatt catagaaacc aacttctact 1620
92   gcctgacctg agcagcgccg aggcgcgcag cgcgatcagt gcgacctgaa cggccagggtg 1680
93   gaaagcgcca ccgatcccg caccgagtgc ctgacgcttc ggatcccttg caccacaacg 1740
94   agagtgaag cgccatgatg aggaaatatc ggctgggcgg agtcaacgcc ggagtgacaa 1800
95   aagtgagaac ccggtgaagc gagcgcttat aacagggatc acggggcagg atggttcccta 1860

```

## RAW SEQUENCE LISTING

DATE: 09/10/2004

PATENT APPLICATION: US/10/805,311

TIME: 14:37:53

Input Set : N:\AMC\US10805311.raw

Output Set: N:\CRF4\09102004\J805311.raw

```

96 cctcgccgag ctactactga gcaagggata cgagggttcac gggctcgttc gtcgagcttc 1920
97 gacgtttaac acgtcgcgga tcgatcacct ctacgttgac ccacaccaac cgggcgcgcg 1980
98 cttgttcttg cactatgcag acctcactga cggcaccggg ttggtgaccc tgctcagcag 2040
99 tatcgacccg gatgaggtct acaacctcgc agcgcagtcc catgtgcgcg tcagctttga 2100
100 cgagccagtg cataccggag acaccaccgg catgggatcg atccgacttc tgggaagcagt 2160
101 ccgcctttct cgggtggact gccggttcta tcaggcttcc tcgtcggaga tgttcggcgc 2220
102 atctccgcca ccgcagaacg aatcgacgcc gttctatccc cgttcgccat acggcgcggc 2280
103 caaggtcttc tcgtactgga cgactcgcaa ctatcgagag gcgtacggat tattcgcagt 2340
104 gaatggcacc ttgttcaacc atgagtcctc ccggcgcggc gagactttcg tgacccgaaa 2400
105 gatcacgcgt gccgtggcgc gcacccgagc tggcgctcaa tcggaggtct atatgggcaa 2460
106 cctcgatgcg atccgcgact ggggctacgc gcccgatat gtcgagggga tgtggaggat 2520
107 gttgcaagcg cctgaacctg atgactacgt cctggcgaca gggcggtggt acaccgtacg 2580
108 tgagttcgct caagctgctt ttgacctagt cgggctcgac tggcaaaagc gcgtcaagtt 2640
109 tgacgaccgc tatttgcgct ccaccgaggt cgattcgcta gtaggagatg ccgacaaggc 2700
110 ggcccagtcg ctcggtcgga aagcttcggt tcatactggt gaactcgcgc gcacatggt 2760
111 ggacgcggac atcgccgcgt tggagtgcga tggcacacca tggatcgaca cgccgatgtt 2820
112 gcctggttgg ggcagagtaa gttgacgact acacctgggc ctctggaccg cgcaacgccc 2880
113 gtgtatatcg ccggtcatcg ggggctgggt ggctcagcgc tcgtacgtag atttgaggcc 2940
114 gaggggttca ccaatctcat tgtgcgatca ccgatgaga ttgatctgac ggaccgagcc 3000
115 gcaacgtttg atttgtgtc ttgagacaaga ccacagtgta tcatcgatgc ggcgcgacgg 3060
116 gtcggcgcca tcatggcgaa taacacctat cccgcggact tcttgtccga aaacctccga 3120
117 atccagacca atttgctcga cgcagctgtc gccgtgcgtg tgccgcggct ccttttctc 3180
118 ggttcgtcat gcactaccc gaagtacgct ccgcaacctg tccacgagag tgetttattg 3240
119 actggccctt tggagccac caacgacgcg tatgcgatcg ccaagatcg cggtatcctg 3300
120 caagttcagg cggttaggcg ccaatatggg ctggcggtga tctctgcgat gccgactaac 3360
121 ctctacggac ccggcgacaa cttctccccg tccgggtcgc atctcttgcc ggcgctcatc 3420
122 cgtcgatatg aggaagccaa agctggtggt gcagaagagg tgacgaattg ggggaccggt 3480
123 actccgcggc gcgaacttct gcattgctgac gatctggcga gcgcatgcct gttccttttg 3540
124 gaacatttcg atgggtccga ccacgtcaac gtgggcaccg gcgtcgatca cagcattagc 3600
125 gagatcgagc acatggtcgc tacagcgggt ggctacatcg gcgaaacacg ttgggatcca 3660
126 actaaaccgg atggaacccc gcgcaacta ttggacgtct ccgcgctacg cgagttgggt 3720
127 tggcgcccgcc gaatcgact gaaagacggc atcgatgcaa cgggtgctgt gtaccgcaca 3780
128 aatgcgatg ccgtgaggag gtaaaagctg gggtcggccg atgttatccc tccggccgga 3840
129 cgggtggggc gacctgccgt cgagtggtag gccagtcgcc tggccggcga ggcgctggc 3900
130 ctatgggagt atccaatagc ctggcttggc tcgcccctac gcattatcag ttgacgctt 3960
131 tcgcgccagc tcgcaggctt gcggcagcat cccgttcagg tctctcatg gtccggtgtg 4020
132 gcacgaccac gcaagctcga accgactcgt ttcccaattt cgcattgcta tatcgctcga 4080
133 tggatttttt gcgcaacgcc ggcttgatgg ctcgtaacgt tagtaccgag atgctgcgcc 4140
134 acttcgaacg aaagcgctta ttagttaacc aattcaaagc atacggagtc aacgttggtt 4200
135 ttgatgtcgg tgctaactcc ggccagttcg gtacgcgttt gcgtcgtgca ggattcaaga 4260
136 gccgtatcgt ttcctttgaa cctctttcgg ggccatttgc gcaactaacg cgcaagtcgg 4320
137 catcgatccc actatgggag tgtcaccagt atgccctagg cgacgccgat gagacgatta 4380
138 ccataaatgt ggcaggcaat gcgggggcaa gtagttccgt gctgccgatg cttaaaagtc 4440
139 atcaagatgc ctttcctccc gcgaattata ttggcaccga agacgttgca ataccgcc 4500
140 ttgattcggg tgcacagaa tttctgaacc ctaccgatgt tactttcctg aagatcgacg 4560
141 tacagggttt cgagaagcag gttatcacgg gcagtaagtc aacgcttaac gaaagctgcg 4620
142 tcggcatgca actcgaactt tcttttatc cgttgtacga aggtgacatg ctgattcatg 4680
143 aagcgcttga acttgtctat tccctaggtt tcagactgac gggtttgtg cccggcttta 4740
144 cggatccgcg caatggctga atgcttcaag ctgacggcat tttcttccgt ggggacgatt 4800

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/805,311

DATE: 09/10/2004

TIME: 14:37:53

Input Set : N:\AMC\US10805311.raw

Output Set: N:\CRF4\09102004\J805311.raw

```

145 gacataaatg ctccgtcggc accctgccgg tatccaaacg ggcgatctgg tgagccggcc 4860
146 tcccgggcac ctaatcgact atctaaattg aggcggccgc gacgtgcggc acgaacaggt 4920
147 ggccggctgc tagcggttaca cagtcacga ctgcgccagt gttctcgata attatcccta 4980
148 ccttcaatgc agcgggtgacg ctgcaagcct gcctcggaag catcgtcggg cagacctacc 5040
149 ggggaagtggg agtgggtcctt gtcgacggcg gttcgaccga tcggaccctc gacatcgaga 5100
150 acagtttccg cccggaactc ggctcgcgac tggctcgttca cagcggggccc gatgatggcc 5160
151 cctacgacgc catgaaccgc ggctcgcggc tggccacagg cgaatgggta ctttttttag 5220
152 gcgcgcgaga caccctctac gaaccaacca cgttgcccca ggtagccgct tttctcggcg 5280
153 accatgcggc aagccatctt gtctatggcg atgttgatg gcgttcgacg aaaagccggc 5340
154 atgcgggacc ttctgacctc gaccgcctcc tatttgagac gaatttgatg caccaatcga 5400
155 tcttttaccg ccgtgagctt ttcgacggca tcggccctta caacctgcgc taccgagtct 5460
156 gggcggactg ggacttcaat attcgtgct tctccaacc ggcgctgatt acccgctaca 5520
157 tggacgtcgt gatttccgaa tacaacgaca tgaccggctt cagcatgagg caggggactg 5580
158 ataaagagtt cagaaaacgg ctgccaatgt acttctgggt tgcagggtag gagacttgca 5640
159 ggcgcatgct ggcgtttttg aaagacaagg agaatcgccg tctggccttg cgtacgcggg 5700
160 tgataagggt taaggccgtc tccaaagaac gaagcgcaga accgtagtcg cggatccaca 5760
161 ttggacttct ttaacgcgtt tgcgtcctga tccaccttc aagcccgctc cgcgtaacgc 5820
162 ggcgcgagga gagtggctgc atatgcacg actgttctcg tgccagtgtc tggaaagcgt 5880
163 cgagcactct gggtcgcgtt cttgacgttc gcgccgctc ctagaggtag cgtgtcacgt 5940
164 gactgaagcc aatgagtga actcggcgct gcgaaagggt tcagtcgcgg ttgagcaaga 6000
165 caccgcaaga ctactggagt gegtgcacaa gcgctccag ctgcggctg aaagcggatg 6060
166 caaagggatt cgaagcttga gcaacatgcg aaggggagaa cggcctatga ggctgggaca 6120
167 ggttttctgat ccgcgcgaga atgcactgtc aatggccaag tagaagtccc cgtgggtggc 6180
168 cagcagaagt ccccaactcg ctgcgggtgg ttggctaatt cttggcggt cccttcttgt 6240
169 ggtcggcggtg gcgcacccgg taggactcgc cggaggtgac gacgatgctg gcgtgggtgca 6300
170 gcagccgatc gaggatgctg gcggcggtgg tgtgctcggg caggaatcgc ccccatgtt 6360
171 cgaagggcca atgcgaggcg atggccaggg agcggcgctc gtagccggca gccacgagcc 6420
172 ggaacaacag ttgagtcctg gtgtcgtcga gcggggcgaa gccgatctcg tccaagatga 6480
173 ccagatccgc gcggagcagg gtgtcgtatga tcttgccgac ggtgttgctg gccaggccgc 6540
174 ggtagaggac ctcgatcagg tcggcgggcg tgaagtagcg gactttgaat ccggcggtgga 6600
175 cggcagcggtg ccgcagcccg atgagcaggt gacttttgcc cgtaccagggt gggccaatga 6660
176 ccgccagggt ctgttggtgc cgaatccatt ccaggctcga caggtagtcg aacgtggctg 6720
177 cggtgatcga cgatccgggt acgtcgaacc cgtcgagggt cttggtgacc ggggaaggctg 6780
178 cggccttgag acggttggtg gtgttgagg catcgcgggc agcgatctcg gcctcaacca 6840
179 acgtccgcag gatctcctcc ggtgtccagc gttgcgtctt ggcgacttgc aacacctcgg 6900
180 cggcggttgc ggcgaccgtg gccagcttca accgcgcag cgcgcgtca aggtcagcag 6960
181 ccagcggtgc cgcgaggac ggtgccaccg gcttgccagc ggtggtcatg aggcgctccc 7020
182 gtcgggtggtg ttgatcttgt aggcctccaa cgagcgggtc tcgacgggtg gcagatcgag 7080
183 cagcagtgcg tcgcggcggg ggccggggtt tgggggtgccc gcgcggcggg ccaggatcga 7140
184 gcgcacgtcg gcagcgcgga accggcgaaa cgcaaccgcc cggcgagcg cgtcaatcaa 7200
185 agcctgttcg ccgtgggcgg cgccaaggcc gagcagaatg tcgagttcgg atttcagtcg 7260
186 ggtgttgccc atcgcagcag caccgacgag gaactgctgc gcttcgggtc ccaatgcgca 7320
187 gaatcgtttc tctgcttggg ttttcgggcg aggaccacgc gaggggtgccc gtctgggtcc 7380
188 gtcgtagtgt tcatcgagga tggacacctc acctgggctg acgagctcgt gctcggccac 7440
189 gatcacaccg gtcgcaggtt ccaacaggat cagggcgcca tgatcgacca ccaccgccac 7500
190 ggtggcaccg acgagccgct gaggcaccga gtaacgagct gagccgtaac ggatgcacga 7560
191 gaggcgctcg acctacggc gcaccgaccc cgagccgatc gtcggcgca gcgagggcag 7620
192 ctccctcaag acggtgcgct cgtcaaccaa gcgatcgtt ggacggcgcc agatctccga 7680
193 gtggaccgtg gcattgacct cggcgacca tagttgcgcc tgggcggtga gggcacgtag 7740

```

## RAW SEQUENCE LISTING

DATE: 09/10/2004

PATENT APPLICATION: US/10/805,311

TIME: 14:37:53

Input Set : N:\AMC\US10805311.raw

Output Set: N:\CRF4\09102004\J805311.raw

```

194      gtcgacctgc tcaccggcta acgcagcttc ggtcagcagc ggcaccgcaa ggctcgtcctg 7800
195      agcgtagcca cagaggttct ccacgatgcc cttcgattgc ggatccgcac cgtggcagaa 7860
196      gtccggaacg aagccatagt gggacgcgaa tcgcacataa tccggtgttg gaacaacaac 7920
197      attggcgacg acaccacctt tgaggcagcc catccggtcg gccaggatct tggccggaac 7980
198      cccaccgata gcctc                                     7995
200 <210> SEQ ID NO: 4
201 <211> LENGTH: 4435
202 <212> TYPE: DNA
203 <213> ORGANISM: Mycobacterium
204 <400> SEQUENCE: 4
205      ttctactgcc tgacctgagc agcgccgagg cgcgcagcgc gatcactgcg acctgaatgg 60
206      ccaggtggaa agcgccaccg atcccggcac cgagtgcctg acgattcgga tcccttgcac 120
207      cacaacgaga gtgagaccgc catgatgacg aaatatcggc tgggcgaggc caacgccgga 180
208      gtgacaaaag tgagaacccg gtgaagcgag cgcttataac agggatcacg gggcaggatg 240
209      gttcctacct cgccgagcta ctactgagca agggatacga gggtcacggg ctcggttcgtc 300
210      gagcttcgac gtttaacacg tcgcggatcg atcacctcta cgttgacca caccaaccgg 360
211      gcgcgcgctt gttcttgac tatgcagacc tctactgacg cacccggttg gtgacctgc 420
212      tcagcagtat cgaccgggat gaggtctaca acctcgcagc gcagtcctat gtgcgcgtca 480
213      gctttgacga gccagtgcat accggagaca ccaccggcat gggatcgatc cgacttctgg 540
214      aagcagtcgc cctttctcgg gtggactgcc ggcttctatca ggcttcctcg tcggagatgt 600
215      tcggcgcatc tccgccaccg cagaacgaat cgacgccgtt ctatccccgt tcgccatacg 660
216      gcgcggccaa ggtcttctcg tactggacga ctcgcaacta tcgagaggcg tacggattat 720
217      tcgcagtga tggcatcttg ttcaaccatg agtccccccg gcgcggcgag actttcgtga 780
218      cccgaaagat cagcgtgcc gtggcgcgca tccgagctgg ctgccaatcg gaggtctata 840
219      tgggcaacct cgatgcgac cgcgactggg gctacgcgcc cgaatatgtc gaggggatgt 900
220      ggaggatgtt gcaagcgctt gaacctgatg actacgtcct ggcgacaggg cgtgggttaca 960
221      ccgtacgtga gttcgctcaa gctgcttttg accacgtcgg gctcgactgg caaagcacg 1020
222      tcaagtttga cgaccgctat ttgcgcccc cagaggtcga ttcgctagta ggagatgccg 1080
223      acagggcggc ccagtcactc ggctggaaag cttcggttca tactggtgaa ctcgcgcgca 1140
224      tcatggtgga cgcgacatc gccgcgtcgg agtgcgatgg cacaccatgg atcgacacgc 1200
225      cgatgttgcc tggttggggc ggagtaagtt gacgactaca cctgggcctc tggaccgcgc 1260
226      aacgcccgtg tatatcgccg gtcacgggg gctggtcggc tcagcgctcg tacgtagatt 1320
227      tgaggccgag ggggtcacca atctcattgt gcgatcacgc gatgagattg atctgacgga 1380
228      ccgagccgca acgtttgatt ttgtgtctga gacaagacca caggtgatca tcatgcggc 1440
229      cgcacgggtc ggcggcatca tggcgaataa cacctatccc gcggacttct tgtccgaaaa 1500
230      cctccgaatc cagaccaatt tgctcgacgc agctgtcgcc gtgcgtgtgc cgcggctcct 1560
231      tttcctcggg tcgtcatgca tctaccgaa gtacgctccg caacctatcc acgagagtgc 1620
232      tttattgact ggcccttttg agcccaccaa cgacgcgtat gcgatcgcca agatcgccgg 1680
233      tatcctgcaa gttcaggcgg ttaggcgcca atatgggctg gcgtggatct ctgcgatgcc 1740
234      gactaacctc tacggaccgc gcgacaactt ctccccgtcc gggtcgcac tcttgccggc 1800
235      gtcacatccg cgatatgagg aagccaaagc tgggtggtga gaagaggtga cgaattgggg 1860
236      gaccggtact ccgcggcgcg aacttctgca tgtcgacgat ctggcgagcg catgcctgtt 1920
237      ccttttgga catttcgatg gtccgaacca cgtcaacgtg ggcaccggcg tcgatcacag 1980
238      cattagcgag atcgagaca tggtcgctac ggcggtgggc tacatcggcg aaacacgttg 2040
239      ggatccaact aaaccgatg gaaccccgcg caaactattg gacgtctccg cgctacgcga 2100
240      gttgggttgg cgcgcgcgaa tcgcaactga agacggcatc gatgcaacgg tgcgtggta 2160
241      ccgcacaaat gccgatgccg tgaggaggtg aagctgcggg ccggccgatg ttatccctcc 2220
242      ggccggacgg gtagggcgac ctgccatcga gtggtacggc agtcgcctgg ccggcgaggc 2280
243      gcatggccta tgggagtatc ccatagctcg gcttggctcg ccctacgca ttatcagttg 2340

```

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/805,311

DATE: 09/10/2004

TIME: 14:37:54

Input Set : N:\AMC\US10805311.raw

Output Set: N:\CRF4\09102004\J805311.raw